

RF Exposure Evaluation according to KDB 447498 D01 v06

Report identification number: 1-5884/23-01-23_MPE_FCC

| Certification numbers and labeling requirements | |
|---|----------|
| FCC ID | N5F-DKA1 |

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1. MPE at given distance (KDB 447498 D01 General RF Exposure Guidance v06)

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

where: S = Power density

P = Power input to the antenna

G = Antenna gain

R = Distance to the center of radiation of the antenna

PG = Output Power including antenna gain

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

| Frequency Range (MHz) | Power Density (mW/cm ²) | Averaging Time (minutes) |
|-----------------------|-------------------------------------|--------------------------|
| 300 -1500 | f/1500 | 30 |
| 1500 - 100000 | 1.0 | 30 |

where f = Frequency (MHz)

2. EUT technologies

| Technologies: | Max. measured E.I.R.P. per BW=50MHz: | | BW (MHz) | Max. declared E.I.R.P. for Full BW: Max.decl.E.I.R.P. @50MHz x (BW/50MHz) | Equivalent EIRP (dBm) | # |
|-------------------------|--------------------------------------|-------|-------------|--|-----------------------|---|
| | (dBm) | (mW) | | | | |
| UWB 6000 to 8500 MHz | -9.86 | 0.103 | 649.6 | 0.103mW x 12.992 = 1.34 mW | 1.27 | B |

Declared minimum safety distance: **20 cm**

| SRD Technology | Frequency [MHz] | | Reference # | Output Power [dBm] | | | Power Density [mW/cm ²] | | Share of Limit % |
|----------------|------------------|------------------|-------------|--------------------|-------------------|---------------------|-------------------------------------|--------------------|------------------|
| | f _{Min} | f _{Max} | | P _{ERP} | P _{EIRP} | P _{RF Exp} | S _{Result} | S _{Limit} | |
| Bluetooth LE | 2402 | 2480 | A | N/A | 9.2 | 9.2 | 0.0017 | 1.00 | 0.17% |
| UWB | 6000 | 8500 | B | N/A | 1.3 | 1.3 | 0.0003 | 1.00 | 0.03% |

Referenced Documents:

| # | Results from: |
|---|---|
| A | Cetecom advanced GmbH report 1-5884/23-01-22, page 18 max. EIRP |
| B | Cetecom advanced GmbH report 1-5884/23-01-19,DKA1-Report: pg. 12 & 16 |

3. Collocation overview:

| Technology | Share of Limit |
|--------------|----------------|
| Bluetooth LE | 0.17% |
| UWB | 0.03% |
| Sum | 0.20% |

4. Conclusion

This prediction demonstrates the following:

The power density levels for FCC at a distance of 20 cm are below the maximum levels allowed by regulations.

Conclusion: RF exposure evaluation is not required.